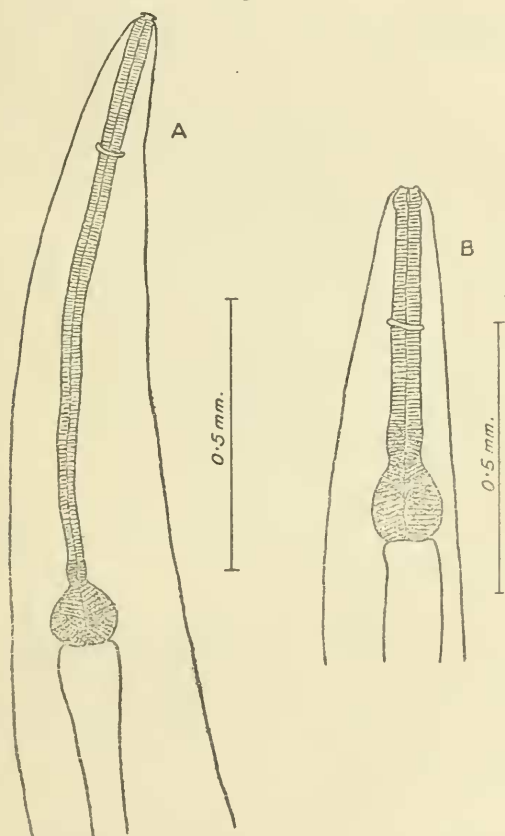


XV.—*Oxyuris paronai*, v. Linst., and its Association with another *Oxyurid* in the same Host. By H. A. BAYLIS, M.A.

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IN working over a miscellaneous collection of nematode and other parasites submitted by Mr. A. Loveridge, there occurred

Fig. 1.



Head and oesophageal region (A) of *Paracis paronai*, (B) of *Oxyuris loveridgei*, both drawn to the same scale of magnification, from female specimens.

a tube containing large numbers of small *Oxyurid* worms from the very remarkable lizard *Macroscoincus coctei*, which is

found only in the Cape Verde Islands. The material proved to include two forms of approximately the same size, but easily distinguishable, even when viewed in spirit under a low magnification, by the strikingly different proportional lengths of the œsophagus (fig. 1, A and B). In one form, of which both sexes are present in large numbers, the œsophagus is very long and slender. This is undoubtedly the species described under the name of *Oxyuris paronai* by von Linstow (1893), from the same host-species. The other form has a short and relatively stout œsophagus, and, though the specimens number some hundreds, all are females.

von Linstow's original specimens of *Oxyuris paronai* are in the British Museum, and on examining them with a view to placing beyond doubt the determination of the new material, it at once became apparent that the same two forms were again present. Further investigation, in this case also, failed to reveal any males of the form with short œsophagus, though males of the other form were present in plenty. It appears, therefore, that the association of these two forms in *Macroscincus* is of common occurrence. It was even suspected for a time that this might be a case of very marked dimorphism limited to the female sex. Closer investigation, however, lends more support to the view that the forms are specifically, or even generically, distinct. The females of the form with short œsophagus are fully mature, and contain ova, and it seems possible that they are parthenogenetic, or represent a parthenogenetic generation.

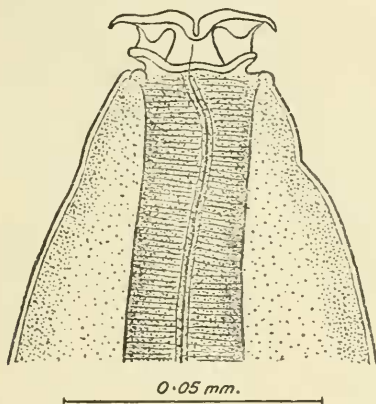
Oxyuris paronai appears to be referable to the genus *Paracis*, as recently defined by Railliet and Henry (1916), of which the genotype is *P. longicollis* (Schneider, 1866) from the tortoise. A comparison of the figures of the tails of males given by Schneider (1866, pl. vii. fig. 8) and by v. Linstow (1893, pl. vii. figs. 18, 19) is sufficient to demonstrate this. Both forms have a blunt, finger-like, caudal appendage in the male, with a pair of papillæ close to the tip; a single spicule, and an accessory piece which forms a median projection behind the cloaca; and a group of paired papillæ surrounding the cloacal aperture. They also agree in the great relative length of the œsophagus.

The structure of the mouth in *P. paronai*, though difficult to make out owing to the very small size of the head, seems to offer characters which may prove to be of generic rather than specific importance. The aperture of the mouth, as v. Linstow indicates, is surrounded by a delicate, membranous, triangular, funnel-shaped apparatus. This, however, is fully

protruded in only a small proportion of the specimens. It then has the appearance represented in fig. 2, when seen under a high magnification ($\frac{1}{12}$ " oil-immersion objective). In the majority of the specimens the "funnel" is withdrawn into the anterior end of the œsophagus. This arrangement somewhat resembles the structure seen in *Crossocephalus*. In that genus, however, the funnel-like apparatus supported by the six jaws is *inverted* into the œsophagus when closed. In *P. paronai*, as far as can be made out, it is probably simply retracted, without inversion.

The "pigmentation" of the œsophagus, intestine, and other parts of *O. paronai*, referred to by von Linstow, seems to

Fig. 2.

Anterior extremity of *Paracis paronai*, highly magnified.

have been due to some artificial discoloration. It is not seen in the material collected by Mr. Loveridge.

As, at present, generic distinctions among the Oxyuridæ rest almost entirely upon male characters, it is proposed to call the new form, as distinct from *P. paronai*, *Oxyuris loveridgei*, sp. n., using the name *Oxyuris* in a broad sense. Further data may show that it is really a dimorphic form of *P. paronai*, but the chief reasons for regarding it for the present as a distinct species are: (1) the different proportional length of the œsophagus; (2) the different structure of the mouth, which appears to be quite simple and without the funnel-like apparatus, but merely surrounded by three small sessile papillæ; (3) the position of the vulva, which is in front of

the middle of the body, instead of behind it, as in *P. paronai**; (4) the much finer striation of the cuticle (in the females of *P. paronai* the striation is so coarse as to be conspicuous under a very low power of the microscope); and (5) the slightly larger dimensions of the eggs.

Measurements of Paracis paronai and Oxyuris loveridgei.

(All measurements are in mm. The figures in square brackets have been calculated from von Linstow's proportional measurements.)

	<i>Paracis paronai</i> (v. Linst.).				<i>Oxyuris loveridgei</i> .
	Measurements given by von Linstow.		Measurements of Mr. Loveridge's material.		
	♂.	♀.	♂.	♀.	
Length	3.12	5.88 †	2.5-2.9	3.8-4.4	4.45-5.3
Maximum thickness	0.22	0.42	0.25	0.43	0.4
Diameter of head .....	.....	.....	0.03-0.04	.....	0.07-0.08
Length of tail	[0.087]	[0.24]	0.08-0.09	0.3-0.6	0.5-0.7
Distance from anterior end to end of oesophagus (including bulb)	[1.16]	[1.68]	0.85-1.0	1.1-1.2	0.6-0.7
Diameter of oesophagus	0.0396	.....	0.03	0.04	0.06
Diameter of oesophageal bulb	0.13	.....	0.10	0.13	0.13-0.14
Distance from anterior end to nerve-ring	0.26	.....	0.23	0.26	0.25
Distance from anterior end to excretory pore .....	.....	.....	0.94-1.15	1.35-1.45	0.8-0.98
Distance apart of cuticular striations	0.012	0.015	0.005
Length of spicule	0.117	0.1
Size of ova	0.15 × 0.07	0.17 × 0.08	0.18 × 0.09

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* v. Linstow gives the proportion in which the vulva divides the body as "37:19." The vulva, though always behind the middle, is usually much nearer to it than this.

† The exceptionally large figure for the total length of the female given by von Linstow was possibly based on a specimen of *O. loveridgei*, as the two forms were not distinguished by him.